

CPSC Staff Comments on Top 20 Chemicals  
December 19, 2019

All Phthalates

- The consumer conceptual models include dermal exposure to air and dust. However, it does not include direct dermal contact with articles, such as toys, furnishings, and personal care products. These should be included.
- The consumer conceptual models include oral exposure to liquids, dust, and air. However, they do include children's mouthing of toys and child care articles.
- Does EPA plan to estimate exposure from NHANES biomonitoring data?
- Does EPA plan to consider the cumulative health effects of phthalates, such as described in the 2008 NAS report on *Phthalates and Cumulative Risk Assessment*?
- Most of our work on phthalates is available at [ [HYPERLINK "https://www.cpsc.gov/chap"](https://www.cpsc.gov/chap) ].

Dibutyl Phthalate/Diisobutyl Phthalate

- These two chemicals are generally interchangeable and should have similar use profiles.
- These are used as carriers and solvents in fragranced products, including air fresheners and personal care products. These uses should be included.
- Dibutyl/diisobutyl phthalates are not commonly used in toys, but they are seen at low frequency. Therefore, toys and child care articles should be considered.

Butyl Benzyl Phthalate

- No comments

Di(2-ethylhexyl) Phthalate

- One consumer use is in vinyl/acrylic backcoatings on textiles. These are used for structural integrity and as a vehicle for flame retardants.
- Although DEHP is not allowed for use in toys and child care articles, should this scenario be considered either as a former use, or as a non-compliant use?

Dicyclohexyl Phthalate

- No comments.

All Flame Retardants

- The consumer conditions of use should include direct dermal contact with finished articles, such as home furnishings and consumer electronics.
- Will EPA include automobile interiors as a microenvironment? This environment tends to have higher exposures.
- Does EPA intend to include exposure of firefighters to FRs or their degradation products? This may have both acute and chronic effects.
- CPSC has a database on exposure to flame retardants and toxicological reviews at [ [HYPERLINK "https://www.cpsc.gov/Research--Statistics/Chemicals/"](https://www.cpsc.gov/Research--Statistics/Chemicals/) ].

Triphenyl Phosphate

- The conditions of use lists a number of flame retardant applications under the heading "Processing." It is not clear whether these apply to consumer exposures, which should be the case.

- The consumer conceptual model does not include direct dermal contact with articles, such as home furnishings or consumer electronics.
- Does EPA plan to estimate exposure from NHANES biomonitoring data?
- Has EPA considered looking at the triaryl phosphate flame retardants as a class? This could include t-butylphenyl diphenyl phosphate (BPDP) (56803-37-3); 2-ethylhexyl diphenyl phosphate (EHDP) (1241-94-7); isodecyl diphenyl phosphate (IDDP) (29761-21-5); and phenol isopropylated phosphate (PIP) (68937-41-7). These have similar uses and health effects.

#### Tris(2-chloroethyl) Phosphate

- There is a considerable database on residential and other exposures to TCEP, including indoor air and dust, and children's products: [ [HYPERLINK "https://www.cpsc.gov/s3fs-public/pdfs/CPSCStaffStatementToxicologyExcellenceRiskAssessmentsReportExposureDataTCEP.pdf"](https://www.cpsc.gov/s3fs-public/pdfs/CPSCStaffStatementToxicologyExcellenceRiskAssessmentsReportExposureDataTCEP.pdf) ].
- We suggest that you cite the 2015 CalEPA "Summary of Technical Information and Scientific Conclusions for Designating Children's Foam-Padded Sleeping Products Containing Tris (1, 3-dichloro-2-propyl) Phosphate (TDCPP) or Tris (2-chloroethyl) Phosphate (TCEP) as a Priority Product" or other related document which indicate there is potential exposure to TCEP from children's foam-padded sleeping products.
- We suggest that you to include reference which contain consumer exposure information for international stakeholders since product such as furniture containing TCEP could be made in China or EU and then imported to USA.
- Does EPA plan to estimate exposure from NHANES biomonitoring data?
- Has EPA considered looking at the trialkyl phosphate flame retardants as a class? This would include tris(1,3-dichloro-2-propyl) phosphate and tris(chloropropyl) phosphate. These have overlapping uses and health effects.

#### TBBPA

- The consumer conceptual model should include direct dermal contact and oral (hand-to-mouth and direct mouthing) exposure to consumer product should be considered. For example, a child could play with a cell phone which contain TBBPA in plastic casing
- Conditions of Use, Table 1. Suggest that you include references which contain consumer exposure information for international stakeholders since consumer product such as TV containing TBBPA could be made in China or EU and then imported to USA..

#### Formaldehyde

- The conditions of use for consumers should include wearing apparel, home furnishings, building materials (e.g., plywood and particle board), and insulation.
- The consumer conditions of use should also include finished products, such as kitchen cabinets and laminate flooring.
- We have data on formaldehyde levels in newer homes, which had low air exchange rates. The formaldehyde levels were surprisingly high. See Table 5.4 in [ [HYPERLINK "https://www.cpsc.gov/s3fs-public/pdfs/blk\\_media\\_51homeFinal.pdf"](https://www.cpsc.gov/s3fs-public/pdfs/blk_media_51homeFinal.pdf) ]. Supplemental data are available at [ [HYPERLINK "https://www.cpsc.gov/Safety-Education/Safety-Education-Centers/Drywall-Information-Center/Interagency-Drywall-Investigation/Drywall-Sample-Analysis-Data-from-Environmental-Health--Engineering-Inc-3/"](https://www.cpsc.gov/Safety-Education/Safety-Education-Centers/Drywall-Information-Center/Interagency-Drywall-Investigation/Drywall-Sample-Analysis-Data-from-Environmental-Health--Engineering-Inc-3/) ]. Additional data are available in Table 3.1 of the follow-up study [ [HYPERLINK "https://www.cpsc.gov/s3fs-public/pdfs/blk\\_media\\_staffsixhome2011.pdf"](https://www.cpsc.gov/s3fs-public/pdfs/blk_media_staffsixhome2011.pdf) ]. These measurements were part of a study on

problem drywall, but the high formaldehyde levels were unrelated to the drywall. The study includes 51 homes with and 51 without problem drywall.

#### Other Chemicals

- No comments.